

5. (amended) A transgenic non-human mammal which has at least one osteoblast cell which contains a recombinant DNA sequence which includes one of the following nucleotide sequences:

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- a) the nucleotide sequence of SEQ ID NO: 1, or its complement, or any contiguous portion of the nucleotide sequence or complement which is at least 36 nucleotide residues in length;
- b) a nucleotide sequence which has at least 80% homology with SEQ ID NO: 1; and
- 10 c) any contiguous portion of the nucleotide sequence of (b) which is at least 36 nucleotide residues in length,
- and which at least one osteoblast cell is capable of enhanced expression of stretch-activated cation channel relative to such cell without the recombinant DNA sequence.

7. (amended) The mammal of claim 5 wherein the mammal is a murine.

8. (amended) A method of producing a non-human mammal with enhanced expression of stretch-activated cation channel in osteoblasts relative to a wild-type littermate comprising:

- 5 a) providing a vector construct containing a transgene encoding a protein having stretch-activated cation channel activity; and
- b) incorporating the vector construct into the genome of the non-human mammal such that the non-human mammal has enhanced expression of stretch-activated cation channel in osteoblasts.

10. (amended) A method of producing progeny of a non-human mammal heterozygous for a stretch-activated cation channel transgene comprising:

- 5 5
- a) mating a first non-human mammal with a second non-human mammal, wherein the first non-human mammal expresses enhanced levels of stretch-activated cation channel in osteoblasts relative to a wild-type litter mate, and wherein the second non-human mammal expresses normal levels of stretch-activated cation channel in osteoblasts; and
- b) selecting progeny obtained from said mating of step a) which are heterozygous for the transgene.